UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,628	09/29/2000	Chuxin Chen	28787.3	9579

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ART UNIT	PAPER NUMBER
2173	

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues (page 9, last 4 lines; page 10, lines 1-3) that claim 26 recites "an inventory system for providing data about a logical ring-type network and for collecting status data from the ring-type network in a raw format...in contrast, the combination of Grau and Yoshiyama teaches a *physical* network..."

In response, Grau discloses "a graphical user interface for displaying the atlas on a computer screen in a variety of views that facilitate comprehension of logical relationships between various components of the system (abstract; col. 1, lines 63-67; col. 5, lines 14-18; col. 15, lines 23-30). Grau teaches a physical and a logical network.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1, 2, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Grau et al* (US 5,910,803), *Yoshiyama* (US 5,621,383) and Andersson et al (US 6,163,544).

Claim 1:

Grau discloses a network mapping tool that organizes (drawing) and displays (visualizing) topology data (network) having a graphical user interface for displaying the atlas on a computer screen in a variety of view that facilitate comprehension of logical relationships between various components of the system (abstract; col. 1, lines 57-67). The mapping tool has an atlas creator 272 that creates the atlas from the topology data and a layout manager 276; both permit drawing a graphical representation of a network (col. 2, lines 1-18; col. 4, lines 2-20, 31-38). Grau teaches a management server station 200 that monitors the internetwork in order to collect, organize and record topology data and atlas data in the topology database 120 (monitoring system for providing topology information). The server includes a database interface component 204 having a topology data interface 206 and an atlas data interface 208 for accessing the data in the database (col. 4, lines 14-20). Grau teaches that more detailed information includes individual information about any links (fig. 6; col. 7, lines 47-65; col. 9, lines 45-58; col. 11, lines 61-67; col. 12, lines 1-21). Grau teaches a window menu for creating (specifying) components of the network (col. 8,

lines 11-27).

Grau does not teach that the network is a synchronized optical
network (SONET) ring. However, Yoshiyama discloses a ring network
system formed by a plurality of nodes connected to one another through a
ring-shaped path, each of the nodes collects all of node information signals
representative of states of the nodes; such collection of all of the node
information signal in each node makes it easy to check an alarm by a
superintendent (abstract; col. 1, lines 53-67; col. 2, lines 1-30). The ring
network system may be a synchronous optical network (SONET), (col. 1,
lines 42-50; col. 2, lines 44-48; col. 4, lines 36-40, 56-61). Therefore, it
would have been obvious to one having ordinary skill in the art to modify
Grau's network atlas mapping tool to include Yoshiyama's ring network
because it allows a user to design a ring network having graphical
representations of nodes, links, and other elements connected to the
network, to monitor the network, collect, and provide information about the
condition of every device.

Grau/Yoshiyama does not teach that a link consists of a time slot.
However, Andersson discloses a method for handling resources in a
telecommunication network. Andersson shows (fig. 5) a physical layer 31
and a logical layer 32; the resources of the physical network, such as links

and time slots in links, etc., are shared among a number of logical networks

(abstract; col. 7, lines 25-32). Thus, it would have been obvious to an

artisan in the art at the time of invention to modify Grau/Yoshiyama's

network system to include Andersson's teaching of links having time slots

because users can determine the capacity of a switch or transmission

channel by figuring how many slots are present.

Claim 2:

Grau teaches that more detailed information includes individual

information about any links (fig. 6; col. 7, lines 47-65; col. 9, lines 45-58;

col. 11, lines 61-67; col. 12, lines 1-21).

Claims 8:

Grau teaches determining whether a node serves as a hub and

displaying the hub designation with a graphical representation of the node

(col. 14, lines 29-39).

Claim 9:

Grau teaches a default selection (col. 2, lines 27-33; col. 7, lines 66-

67; col. 8, lines 1-10).

Claim 10:

See claim 1. Grau teaches a mapping tool that allows the user to

view information about the status of the nodes and links of the network (col.

2, lines 34-42; col. 4, lines 2-20, 54-57; col. 11, lines 61-67).

4.   **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over**

Grau/Yoshiyama/Andersson **and the article entitled** Sonet Management,

published by America's Network in August 1997.

As per claim 3, Grau/Yoshiyama/Andersson does not teach the

information includes individual information about any drop ports on the

selected node. However, Sonet management discloses a system map with

color-coded indicators to display network and circuit status, the Sonet

Network Management System (SNMS) lets carriers manage multiple Sonet

and asynchronous network elements from a central location. The system

displays alarms and information on the network map including ports that are

in an alarm state (lines 1-21). Thus, it would have been obvious to a person

having ordinary skill in the art at the time the invention was made to include

Sonet management's teaching of displaying port status in

Grau/Yoshiyama/Andersson because users are provided with visual

information about the status of network elements such as ports so that

technicians may determine which ports have loose conditions or physical

defects, locate the fault and solve the problem.

5.   **Claims 4, 6, 7, and 11 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over *Grau/Yoshiyama/Andersson* and *Pamela Fruth* (article

entitled Fluke Networks SwitchWizard, published by Network Computing in

1996).

Claim 4:

See claim 1. Grau/Yoshiyama/Andersson does not teach determining

a percent consumed and a percent spare capacity for each node and

displaying the percentages. However, Fruth discloses Fluke Networks

SwitchWizard, which works with the Enterprise LANMeter family of portable

network management tools and performs a Segment Discovery test that

itemizes vital network information. It also includes a MultiPort Statistics

feature that looks at activity on each port of the switch and displays

utilization and error percentages; it also monitors other ports in the

background; the data can be sorted by port number, average utilization or

average error rates (lines 1-13). Thus, it would have been obvious to one

ordinarily skilled in the art at the time of invention to include Fruth's teaching

of information on port utilization in Grau/Yoshiyama/Andersson's network

system because it helps administrators to find problems before they become

serious.

Claims 6, 7, and 11:

See claims 1 and 10 above. Fruth teaches displaying utilization

percentages (consumption status), (lines 8-13).

6.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Grau/Yoshiyama/Andersson/Fruth in view of *Barry Nance* (article entitled <u>SLA</u>

<u>enforcement tools to the rescue, Visual Uptime wins Blue Ribbon Award for</u>

<u>accuracy and reporting features</u>, published by Network World in April 2000).

Claim 5:

Grau/Yoshiyama/Andersson/Fruth does not teach a percent restricted

and a percent pending. However, Nance discloses the software VitalSuite

for monitoring complex networks, which consists of VitalHelp (among other

components) to assess the health of TCP/IP-based applications. When it

determines the cause of a problem, it posts alerts to a network

administrator. The Network Heat Chart is a VitalSuite tool that's useful for

tracking SLA compliance. A historical report of availability and response

time data, the Heat Chart provides a visual summary of network quality; the

report shows the performance of devices within each resource class,

characterized by availability, utilization, congestion and errors (page 3, lines

2-20). Therefore, it would have been obvious to an artisan in the art at the

time the invention was made to include Nance's teachings in

Grau/Yoshiyama/Andersson/Fruth's network mapping tool because it enables

users to view history reports that reveal the traffic levels of the network,

what is available (or not available, restricted), congestions (pending), and

errors, and take corrective action.

7.   **Claims 12, 14, and 20 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over _Grau et al_ (US 5,910,803), _Yoshiyama_ (US 5,621,383),

and _Walker et al_ (US 6,594,696 B1).

Claims 12:

See claim 1. Grau teaches a window menu for creating (specifying)

components of the network (col. 8, lines 11-27). Grau/Yoshiyama does not

teach means for displaying specific information by placing a cursor on a

specific area. However, Walker discloses a network management system

and method using object tips for displaying detailed data. Walker explains

that object tips (tool tips) are activated by placing the pointer on a specific

area and more detailed information about an object, device, or link can be

viewed by the user. Thus, it would have been obvious to a person having

ordinary skill in the art at the time of invention to modify Grau/Yoshiyama's

network system to include Walker's technique of displaying detailed

information because the additional information can be displayed only when

the user needs it and it is an easy, quick, and convenient way of retrieving

data for determining factors about the operation and/or state of the network.

Claim 14:

See claim 1. Grau/Yoshiyama teaches selection of nodes and/or links

in a ring-type-network (Grau: col. 2, lines 1-18; col. 4, lines 2-20, 31-38;

Yoshiyama: col. 1, lines 42-50; col. 2, lines 44-48; col. 4, lines 36-40, 56-

61).

Claim 20:

Grau teaches determining whether a node serves as a hub and

displaying the hub designation with a graphical representation of the node

(col. 14, lines 29-39).

8.   Claims 13, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as

being unpatentable over *Grau/Yoshiyama/Walker* and *Pamela Fruth*.

Claims 13, 18, and 19:

See claim 12. Grau teaches a mapping tool that allows the user to

view information about the status of the nodes and links of the network (col.

2, lines 34-42; col. 4, lines 2-20, 54-57; col. 11, lines 61-67). Fruth

teaches displaying utilization percentages (consumption status), (lines 8-13).

Claim 16:

See claim 12. Grau/Yoshiyama/Walker does not teach determining a

percent consumed and a percent spare capacity for each node and displaying

the percentages. However, Fruth discloses Fluke Networks SwitchWizard,

which works with the Enterprise LANMeter family of portable network

management tools and performs a Segment Discovery test that itemizes vital

network information. It also includes a MultiPort Statistics feature that looks

at activity on each port of the switch and displays utilization and error

percentages; it also monitors other ports in the background; the data can be

sorted by port number, average utilization or average error rates (lines 1-13).

Thus, it would have been obvious to one ordinarily skilled in the art at the

time of invention to include Fruth's teaching of information on port utilization

because it helps administrators to find problems before they become serious.

9.   **Claims 15, 23, and 25 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over *Grau/Yoshiyama/Walker* and *Sonet Management*.

Claims 15 and 25:

See claims 1 and 3. Grau teaches information about links and nodes

(abstract; col. 1, lines 53-67; col. 2, lines 1-30). Sonnet Management

teaches information about drop ports (lines 1-21).

<u>Claim 23:</u>

Grau/Yoshiyama/Walker does not teach the information includes

individual information about any drop ports on the selected node. However,

Sonet management discloses a system map with color-coded indicators to

display network and circuit status, the Sonet Network Management System

(SNMS) lets carriers manage multiple Sonet and asynchronous network

elements from a central location. The system displays alarms and

information on the network map including ports that are in an alarm state

(lines 1-21). Thus, it would have been obvious to a person having ordinary

skill in the art at the time the invention was made to include Sonet

management's teaching of displaying port status in Grau/Yoshiyama/Walker

because users are provided with visual information about the status of

network elements such as ports so that technicians may determine which

ports have loose conditions or physical defects, locate the fault and solve the

problem.

10.   **Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable**

over *Grau/Yoshiyama/Walker* and *Barry Nance*.

Claim 17:

See claims 1 and 5. Grau/Yoshiyama teaches a monitoring system

and means for drawing graphical representations of a ring-type network.

Nance teaches history reports showing the performance of devices

characterized by availability (available or restricted), utilization, congestion

(pending), and errors (page 3, lines 2-20).

11.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable

over *Grau/Yoshiyama/Walker* and *Sanschagrin et al* (US 6,295,540 B1).

Claim 21:

See claim 12. Grau/Yoshiyama/Walker does not teach a trunks

integrated record keeping system. However, Sanschagrin discloses a

network management system that uses a data synchronizer, which initiates

an inventory verification request specifying the verification data to be

returned. The synchronizer then determines the network manager and the

record keeping system involved in the inventory verification request.

Sanschagrin teaches that an application of the synchronizer is for updating

inventory data of a trunk integrated record keeping system (TIRKS) using an

integrated network manager (INM), (abstract; col. 2, lines 49-67). Thus, It

would have been obvious to one having ordinary skill in the art at the time of

invention to include Sanschagrin's teaching of a record keeping system

(TIRKS) in Grau/Yoshiyama/Walker's network system because as

Sanschagrin says, the TIRKS system allows users to automatically log, route,

and monitor the progress of work orders, view and maintain an accurate,

up-to-date inventory of all facilities and equipment and their assignments,

execute interactive, user-defined queries and generate customized reports of

work center activity, critical dates, and jeopardy conditions, etc.

**12.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable
over *Grau/Yoshiyama/Walker* in view of *Alan Zeichick* (article entitled
<u>Predicting Failure</u>, published by InternetWeek in September 2000).**

As per claim 22, see claim 12. Grau/Yoshiyama/Walker does not

teach a mismatch identifier. However, Zeichick discloses tools the help

administrators catch network problems caused by hardware faults or

changing network usage patterns. Zeichick teaches that data is compared

against a historical database, unexpected changes in their usage patterns

might signal real problems ahead (page 33, col. 2, lines 8-14). Thus, it

would have been obvious to a person having ordinary skill in the art at the

time the invention was made to include Zeichick's tools in

Grau/Yoshiyama/Walker's system because as Zeichick says, the system has

the capability to alert administrators to what might appear to be minor

problems or changes in operating status; operators are enabled to analyze

faults of components that may be ready to fail; and they may predict future

problems.

13.   Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable

over *Grau/Yoshiyama/Walker* and *Henderson et al* (US 6,058,103).

Claim 24:

Grau/Yoshiyama/Walker does not teach bandwidth usage. However,

Henderson discloses a method for managing a telecommunications network

having a graphical user interface for a user to interact with an object model

of the physical telecommunications network (abstract; col. 2, lines 32-52).

Henderson teaches that as the network becomes more capable,

telecommunication services providers are faced with increased demand,

which requires increased communication bandwidth. To meet the increased

communication bandwidth requirements, many service providers have turned

to optical communications (SONET), (col. 1, lines 33-46). Therefore, it

would have been obvious to a person having ordinary skill in the art to

include information about bandwidth usage in Grau/Yoshiyama/Walker's

network system because users are provided with information about the data

transfer capacity of the communications system.

14. **Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over *Grau et al* and *Yoshiyama*.

Claim 26:

See claim 1. Grau teaches a management console that interacts with

the server to provide a graphical user interface for displaying an atlas on a

computer screen in a variety of views that facilitate comprehension of logical

relationships between various components of the system (abstract; col. 1,

lines 57-67).

Claim 28:

See claim 1. Grau/Yoshiyama teaches selection of nodes and/or links

in a ring-type-network (Grau: col. 2, lines 1-18; col. 4, lines 2-20, 31-38;

Yoshiyama: col. 1, lines 42-50; col. 2, lines 44-48; col. 4, lines 36-40, 56-

61).

15. **Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable**

over *Grau/Yoshiyama* and *Pamela Fruth*.

As per claim 27, see claims 4 and 6. Grau teaches a mapping tool

that allows the user to view information about the status (detailed

information) of the nodes and links of the network (col. 2, lines 34-42; col.

4, lines 2-20, 54-57; col. 11, lines 61-67). Fruth teaches displaying

utilization percentages (consumption status), (lines 8-13).

Conclusion

16.   The prior art made of record and not relied upon is considered

pertinent to applicant's disclosure.

17.   Applicant's amendment necessitated the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

See MPEP § 706.07(a). Applicant is reminded of the extension of time

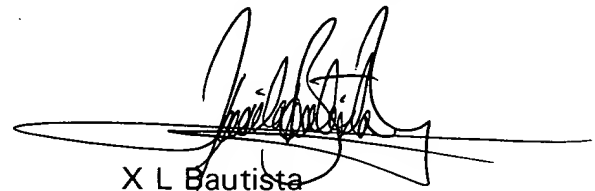policy as set forth in 37 CFR 1.136(a).

18.   A shortened statutory period for reply to this final action is set to

expire THREE MONTHS from the mailing date of this action. In the event a

first reply is filed within TWO MONTHS of the mailing date of this final

action and the advisory action is not mailed until after the end of the THREE-

MONTH shortened statutory period, then the shortened statutory period will

expire on the date the advisory action is mailed, and any extension fee

pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply

expire later than SIX MONTHS from the date of this final action.

19.   Any inquiry concerning this communication or earlier communications

from the examiner should be directed to X L Bautista whose telephone

number is (703) 305-3921. The examiner can normally be reached on

Monday-Thursday (8:00-18:00), Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, John W Cabeca can be reached on (703) 308-3116.

The fax phone number for the organization where this application or

proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained

from the Patent Application Information Retrieval (PAIR) system. Status

information for published applications may be obtained from either Private

PAIR or Public PAIR. Status information for unpublished applications is

available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on

access to the Private PAIR system, contact the Electronic Business Center

(EBC) at 866-217-9197 (toll-free).

X L Bautista
Patent Examiner
Art Unit 2173

xlb
February 16, 2004

RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173